GEOGRAPHIC NEWS BULLETINS

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THE NATIONAL GEOGRAPHIC SOCIETY

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General Headquarters, Washington, D. C.

Contents For Week of October 26, 1925. Vol. IV. No. 13.

1. Maine Approves Harnessing Bay of Fundy Tides.
2. Beacons For Ships of the Air.
3. Mosul Boundary Dispute Threatens Ancient Christian Tribe.
4. Fez, France's Riff War Capital.
5. The Druses, Challengers of France in Syria.

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A GUFAH—LOAD OF MESOPOTAMIAN WATERMELONS

(See Bulletin No. 3.)

HOW TO OBTAIN THE BULLETINS

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Maine Approves Harnessing Bay of Fundy Tides

IMPOUNDING the strength of the famous tides in the Bay of Fundy has been brought a step nearer accomplishment by the recent approval of the project by the people of Maine at the polls.

Because it has a short, distinctive name and an extraordinary reputation, Fundy is probably better known by name at least than any other bay in the world.

Twice every day a tremendous quantity of ocean water swishes up this 145 mile bay, reaching depths of 30, 40 and 50 feet toward the head. Then it turns rather quickly and rushes out again. The performance has gripped the imaginations of generations of juvenile geography students and has stamped "Fundy" into their memories. Now it has taken a delayed grip on technical imaginations, and engineers are figuring how these thousands of tons of rushing water can be made to turn power wheels.

Ocean Runs Uphill and Down

One big factor in Fundy's super-tides can be seen from a map. The inlet has a funnel-shaped opening into which the ocean tide is "wedged." But a more important factor is not apparent from maps. The bottom of the bay is a huge inclined plane, which, starting at a depth of more than 400 feet at the mouth slopes up with remarkable regularity at a rate of about 4 feet a mile to the head of the bay 145 miles away. The inrushing water, then, is not only squeezed from the sides by the narrowing channel but is "squeezed upward," so to speak, by the gently sloping bottom and as long as the push comes from behind it continues to pile up in the upper bay. When the ocean tide subsides and the momentum of the inflow is exhausted the piled up water simply runs down hill again.

The high waters of Fundy are in some ways disconcerting. Wharves for some of the little ports near the bay's head must be perched on piles 60 feet high. When the tide flows outward many of the settlements are left behind two or three miles of mud flats.

A Harness For Tides

The most ambitious scheme for harnessing Fundy's great tides proposes to throw huge dams across the mouth of the inlet which is there 48 miles wide. This would entail international cooperation, for the western portal of Fundy's door is territory of the United States, the northeastern corner of Maine. Such a dam, too, would impound water in Passamaquoddy Bay and the St. Croix River through which the international boundary runs. This large plan has been opposed because it would set up a barrier to commerce into and from Eastport, Maine, and numerous other communities in Maine, New Brunswick and Nova Scotia. The plan now under consideration would dam Passamaquoddy Bay, which might be considered a little brother of Fundy.

The head of the Bay of Fundy is separated from the waters of the Gulf of St. Lawrence to the north by a neck of land only 15 miles wide. At high tide sea level is 20 feet lower on the northern side of this neck. One of the

BEERSHEBA'S MUNICIPAL GUEST BOOK IN SYRIA

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The close relation between man and water is strikingly marked in many parts of the world. Here, at one of Beersheba's seven ancient wells, five of which are still in use, countless thirsty travelers have with rope and water-jar, and in these modern times with gasoline tins, recorded their visits in the limestone as the glacier left its record of scoured rock. In the Yangste gorges just such deep grooves have been worn in the rocks by bamboo cables, which the Chinese coolies employ in dragging heavy junks past dangerous rapids to the rich province of Szechuan (See Bulletin No. 5).

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Beacons For Ships of the Air

EXTENSION of the lighthouse service of the Department of Commerce to provide beacons for the airways of the nation, is a recent proposal. This new service would carry on the beacon installation put in by the Air Mail Service for its night schedules between New York, Chicago and Cheyenne, Wyoming.

The latest development in the newest lighthouse field is the establishment of a one-billion candle-power beacon near Dijon in eastern France, primarily to facilitate night travel on the Paris-Marseilles line, but also to point the way for the numerous buzzing carriers of passengers, mail and express, which France sees weaving a network of air routes over the country in the near future.

This most powerful lighthouse in the world does not rise like its long line of famous predecessors from near the pounding serf, but is situated on a mountain top 250 miles inland from the English Channel and the Mediterranean, and 300 from the Atlantic. It is not, like the existing aviation lights in the United States, one of a series of beacons in the line of a traveled route; and unlike many great lighthouses of the sea, it does not mark a region that is to be avoided or a channel entrance that is to be entered. It is placed well to the side of many of the much traveled French air lanes, in such a situation that it can be seen from great distances and used as a check on location and direction. The beacon lies nearly 2,000 feet above sea level and flashes its powerful beams far above most of the low hills of central France. Under favorable atmospheric conditions it is believed that the Dijon light can be seen from near Marseilles in the south, and from the air above Paris, Lille and even Brussels in the north.

Lighted by 500,000,000 Candles

The lighthouses of the air have had a radically different development so far in America's vast land areas. Almost the only problem here has been to supply well lighted, hard and fast routes for the transcontinental mail flyers; and this has been so well solved by the Post Office Department, that it probably will serve as a model for all the definitely lighted airways of the future. The most powerful of the air mail beacons are of half-billion candle power. Five of these were placed on the division landing fields at Chicago, Iowa City, Omaha, North Platte, and Cheyenne, from 200 to 500 miles apart. The planes land at each of these stations and the brilliant flashing beacons are to identity the landing fields. As the planes approach the earth the beacons are turned off and the fields are flood-lighted.

Between the regular landing fields, at 25-mile intervals, are emergency landing fields, each marked by a flashing light of 5-million candle power. Normally these smaller beacons serve to outline the flying route. Between the lights of the emergency fields, approximately three miles apart, are small, blinking, routing beacons. Thus the air mail flyer has his night route marked out for him with a pencil of light extending off from Chicago 1,000 miles to the west.

All of these lights are not shining at one time. For the west-bound flyer

UMI

many suggestions for harnessing the bay's tides, the practicability of which is not apparent, looks to the building of a dam far up in the inlet to capture the successive tidal flows, and the cutting of a "mill race" to the north along which power could be generated continually from the tidal reservoir.

Site of First French Settlement

Fundy has a significance aside from its tides. Champlain, the famous French explorer of the New World, helped to establish on its shore in 1604 Port Royal, now Annapolis, the first permanent French Settlement in America. In 1613 English settlers from Virginia, taking a hand in the Franco-British struggle, attacked Port Royal and almost totally destroyed it. The Annapolis Valley today is described as "the garden spot of Nova Scotia."

Bulletin No. 1, October 26, 1925.

A TIDAL PRODUCT

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Gathering seaweed near Penzance, Cornwall. To their spheres of usefulness in the kelp, oyster and clam industries, and shipping, tides may soon add the generation of electricity, if the Bay of Fundy tide-harnessing project is successful (See Bulletin No. 1).

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Mosul Boundary Dispute Threatens Ancient Christian Tribe

THE PENDING decision of the League of Nations Council in regard to the disputed Iraq-Turkish boundary north of Mosul will affect more than British oil claims. It may mean the life or death of a people, the Assyrian or Nestorian Christians, who, until the World War, had held on to their mountain fastnesses and their faith for more than 19 centuries.

In the days of Marco Polo and for some centuries previous, the Assyrian or Nestorian Christians represented a mighty Church spread throughout Asia. The Mother Church was very strong in Mesopotamia and Persia, and thriving missions and communities of converts existed in Tartary, Siberia, Mongolia, China and India. Twenty-five or more bishoprics are listed in the church records of that age. Over this strong Christian Church ruled "The Patriarch of the East" with his see in Mesopotamia, a somewhat privileged organization under the early Mohammedan rulers.

Driven to Mountains By Mohammedans

But the rising tide of militant Mohammedanism, and especially the invasions of Genghis Khan and Tamerlane, put an end to this prosperity and growth. The Assyrians withdrew into the mountains along the River Zab, an affluent of the Tigris north of Mosul. Their people had occupied this region since before the Christian Era; now they concentrated there. Even the Patriarch moved to this inhospitable mountain region, making his seat a castle on a steep mountain slope near Julamerk, about 200 miles north of Mosul.

In 1850 more than 100,000 Assyrian Christians lived in the rough highlands of the northern part of the vilayet (province) of Mosul and in the southern part of the vilayet of Van, extending also across the Persian border to Lake Urumiah. The Kurds, who since long before Xenophon's day lived all about this Assyrian province, looked upon the Assyrians as enemies and often clashed with them on the borders; but they rated the fighting prowess of the mountain Christians highly and for centuries did not dare invade their strongholds. During the latter part of the nineteenth century and the early part of the twentieth, however, Kurds and Turks began treating the Assyrians like the Armenians. Whole villages, especially in the foothills near Mosul, were pillaged and many of their inhabitants massacred.

Joined Allies in World War

During the World War the Assyrian Christians threw in their lot with the Allies when the armies of the latter reached their country. When the Turks overran the region again the unhappy Assyrians met the fate of their Armenian fellow Christians to the North. Thousands were massacred and the rest fled. A handful escaped northward to the Caucasus, while the main body of survivors, probably less than 10,000, reached the plains of Iraq, where refugee camps were established for them by the British.

In making their claims for a new boundary north of Mosul, the British included a considerable area of the foothills formerly occupied by the Assyrians and reestablished the survivors there. Some of this region lay north of the old boundary of Mosul vilayet. The Turkish government protested that in

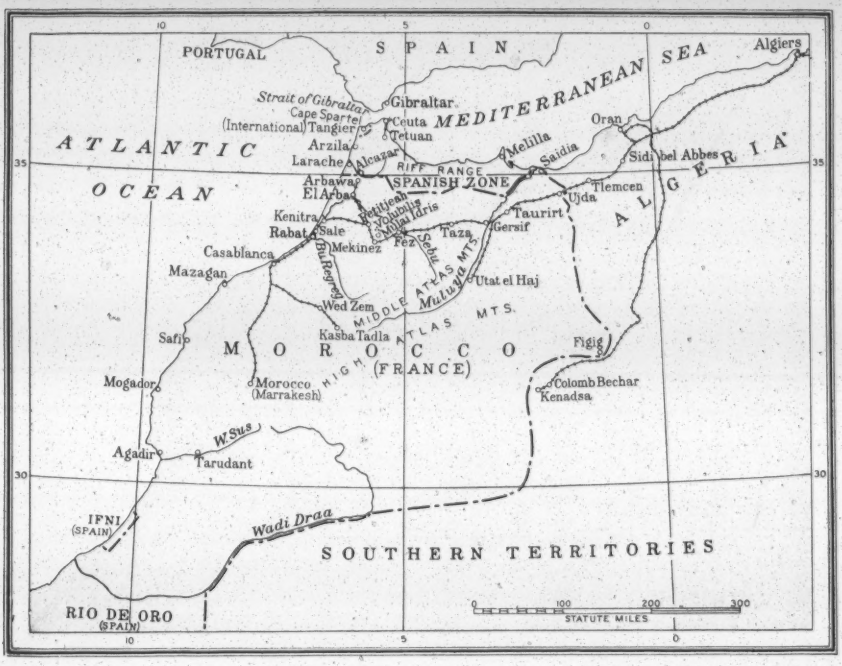
UMI

from Chicago only the Chicago-Iowa City division is lighted at first. The planes are operated on a regular dispatching system. As a plane passes over each emergency field the caretaker there notifies the station in advance and that in the rear by telephone. When the plane lands at the division point, all of the emergency fields passed over are notified, and their lights are turned off. Then the portion of the route passed over is lighted only by the little automatic blinking gas lights of the three-mile beacons, which pulse their signals for weeks at a time without attention. When the plane is ready to take off on the next leg of its cruise, all the beacons of the second division begin flashing to lead it in safety along its way.

Chicago-New York Lighting Different

Between New York and Chicago a second lighted airway is now in operation, with somewhat different types of lights. Because of the rough country, beacons cannot be seen, as in the West, for 25 miles or more. Lights of the western emergency field type are placed from 12 to 17 miles apart marking emergency landing sites. In between, usually on hills or ridges, are lamps which send out rather broad beams of fair brilliancy. These are merely routing signals and do not indicate landing fields. To make their character clear each sends vertically a constant red light. At shorter intervals along the Eastern airway are small, blinking lights like those used in the West.

Bulletin No. 2, October 26, 1925.



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FRENCH AND SPANISH MOROCCO SCENE OF RIFF WAR

French Morocco is about equal in area to the State of Texas and Spanish Morocco is the size of Massachusetts (See Bulletin No. 4).

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Fez, France's Riff War Capital

FEZ HAS become a center of world attention by its selection as the strategic center of French operation against the rebellious Riff tribesmen of Morocco. A compact, white-robed city of uneven flat roofs and unexpressive walls, with the blue Riffian hills to the north and the crystal-crowned heads of the Atlas Mountains to the south framed in a cobalt sky, there is probably no more alluring picture to the Western eye than this long-hidden Holy City of Morocco, seat of Moslem learning for more than 1,000 years.

From among the roofs rise the minarets of the mosques, not the slender round towers, like those farther east, but square in shape, like the Giralda of Seville. But it is the great crenelated outer ramparts, with their rounded projections or scallops, that give to it, and to every Moroccan town, its air of enchantment and mystery.

The Four "Quarters" of Fez

It is only from a distance that Fez possesses its snow-white appearance. At closer range the immutable walls of the ancient city fascinate the stranger with the multiplicity of their shadings from terra cotta to ocher, nearly golden in some lights, buff and even purplish in others. Massive watchtowers and an occasional gate with a horseshoe arch interrupt their regular course around the gently rolling plain in which the city is built.

Breaking the monotony of these walls within walls, built in the days when Moroccan cities were perpetually menaced, are the smiling fields and gardens, that encircle the city, and the glimpses of courtyards and gardens within, where cypresses, pomegranates, apricots and oleanders shade the jasmine and rose.

Fez has four distinct divisions: The Medina, or native town; the Mellah, or Jewish quarter; the Sultan's palace and grounds; and the new French city outside the walls; for the French, in their conquest of North Africa, have been especially careful not to interfere with Moslem architecture, religion or customs.

Lattices Ward Sun From Streets

The native city is divided, in turn, into Djedid, the upper town, and El Bali, the lower, older section. Djedid boasts of some fine old palaces and gardens, some of them abandoned, one of which is now used as a French hotel. El Bali is a labyrinth of dark lanes flanked by buildings which are windowless save for the barred slits in the upper stories. Narrow lanes and streets roofed with lattices of reeds minimize the severity of the sun's rays.

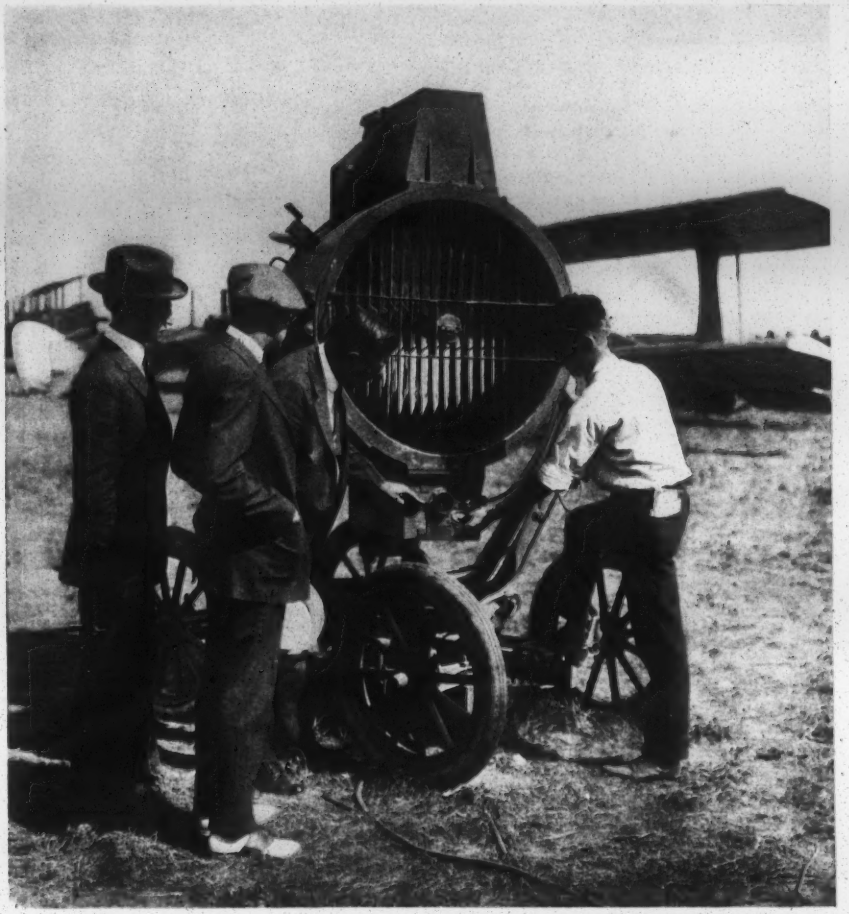
The booths of the merchants who sit cross-legged smoking kief in long reed pipes, are cubby-hole bazaars waist-high above the street. All day long a never-ceasing human tide flows by their shops while they sit and wait by the hour among their wares—cinches for horses, saddle blankets, rainbow-hued silks and gay-colored cotton cloth.

Until recent times Fez had a monopoly on the red felt caps which bear the city's name. In the old days, it is said, the carmine dyes for these caps was obtained from the juice of a Moroccan berry. But now fezzes are also

UMI

disposing of this land the British had encroached on Turkish territory. September, 1924, a Turkish force crossed the frontier and burned a number of newly rebuilt villages, killing some Assyrians and driving the others south again. A temporary boundary was agreed to along the old Mosul line. Commissioners of the League of Nations later gathered evidence in the Mosul region, and before long a permanent boundary will be decreed. Whether the tiny remnant of the Christian mountaineers will be given some part of their old mountain home, or whether they will have to adapt themselves to life in the unhealthy plains, will be one of the important by-product decisions. In the meantime the old Assyrian strongholds in the mountains along the Zab are being consolidated as a part of Kurdistan.

Bulletin No. 3, October 26, 1925.



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"MIDNIGHT SUN" OF THE AIR MAIL

The beam of this searchlight has the power of 500,000,000 candles. Five of these beacons are mounted along the night-flying portion of the transcontinental air route which extends from Chicago to Cheyenne Wyoming. One is at each terminal, the other three are at the major landing fields of Omaha, North Platte, Nebraska, and Iowa City. Under good weather conditions this light is visible at 100 miles (See Bulletin No. 2).

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The Druses, Challengers of France in Syria

A PEOPLE whose religion forbids them to use alcohol, tobacco or profanity but binds them to take a life for a life when one of their tribe is killed.

A people who believe the world's population remains ever constant and time's duration to be exactly 343,000,000 years.

A people who have held their creed inviolate and maintained considerable political independence in a region destined by its resources to become "the granary and garden of Syria."

Such are the Druses of Hauran whose revolt is believed to be broken by the success of the French relief column which fought its way to Suedia, Druse capital. A French detachment there had been beleaguered two months by the fighting tribesmen.

Their Plain, a Museum of Roman Might

South of Damascus and east of the Sea of Galilee stretches the wind-swept plain, Hauran, prairie land of Syria, 2,000 feet above the sea, red-soiled, black-rocked, fertile but treeless. It is flecked with ruins of rock-built cities and villages, haggard souvenirs of the years when the long arm of Rome embraced all this region.

Set down on the east of this plain is an azure plateau of lava, El-Leja, with its jagged rim rising some twenty-five feet around its 350 square mile area. In the fissures and chasms of this "tempest in stone" the Druses can retreat when hard pressed and it constitutes an important geographical reason for the isolation and independence of this people.

Nominally Mohammedan, the Druses have embodied in their faith features of the teachings of Moses and Jesus, and added to this mixture ideas from various pagan sources.

The Test of a Druse

When a stranger visits a Druse home his host places before him two jars, one filled with water, the other empty. If the visitor is a Druse he will pour the water of one into the other to signify his belief in transmigration of souls.

The Druses make ample allowance for frailties of human nature which preclude many from a strict observance of all their requirements. They divide their adherents into the "intelligent" and the "ignorant," only the former being permitted to attend the Friday morning services. The "intelligents" must undergo a novitiate after which they return to their accustomed tasks.

The name, Druses, is traceable to Darazi, who proclaimed the divinity of the Fatimite Caliph, Hakim, nearly one thousand years ago. The Druses believe that God revealed himself ten times in human form, the last of these incarnations being Hakim, whose mysterious disappearance gave semblance to the prophecies that he is to return.

Primitive Christians Are Neighbors

The Maronite Christians, who have interested Bible students because they adhere closely to so many practices of the early church, are neighbors of

UMI

manufactured in Turkey and in France. Turks are laying aside the fez for the American fedora.

Even Have Fine Arts Commission

Some of the aristocratic types seen on the narrow streets of the native city are most striking. These are men of white skin and noble mien, whose flowing robes lend a certain grace and dignity. Most of the natives are Moors, who number, in the French and Spanish zones, about 6,000,000. There are also many admixtures—Arab, Jewish, Turkish and European, as well as Negro slave blood from the far south. The coming of the French in this region meant the end of long years of oppression for many of the inhabitants, especially the Jews.

The French in Morocco have had to build extensively—administration buildings, post offices, barracks, railway stations, warehouses, hotels, shops, homes. A Fine Arts Commission supervises all buildings and grounds. The buildings, always white, are usually of two stories, with broad windows instead of blank Moslem walls. There are arcades, patios, columns and arches. Color is introduced in bands of glazed tiles, blue predominating.

The Why of Moorish Architecture

Formerly a great seat of learning, Fez still is sacred to Moslem pilgrims. Its Mosque of Muldai Idris is considered so holy that the streets leading to its entrance are closed to Jews, Christians and four-footed beasts. In the medersas (preparatory schools), however, the visitor can see the beautiful Moslem architecture at its best. For nearly 1,200 years Moslem art has been essentially the same—simple of outline, with decorations in complicated geometrical design, since the Moslem faith is prejudiced against the representation of any form of life.

The Riffian tribesmen, numbering about 30,000, occupy the hill territory to the north and west of Fez.

Bulletin No. 4, October 26, 1925.

Form for Renewal of Bulletin Requests

Many requests for the GEOGRAPHIC NEWS BULLETINS were made for the ending with this issue. If you desire the Bulletins continued kindly notify The Society promptly. The attached form may be used:

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Kindly send.....copies of the GEOGRAPHIC NEWS BULLETINS for the school year beginning with the issue of..... for classroom use, to

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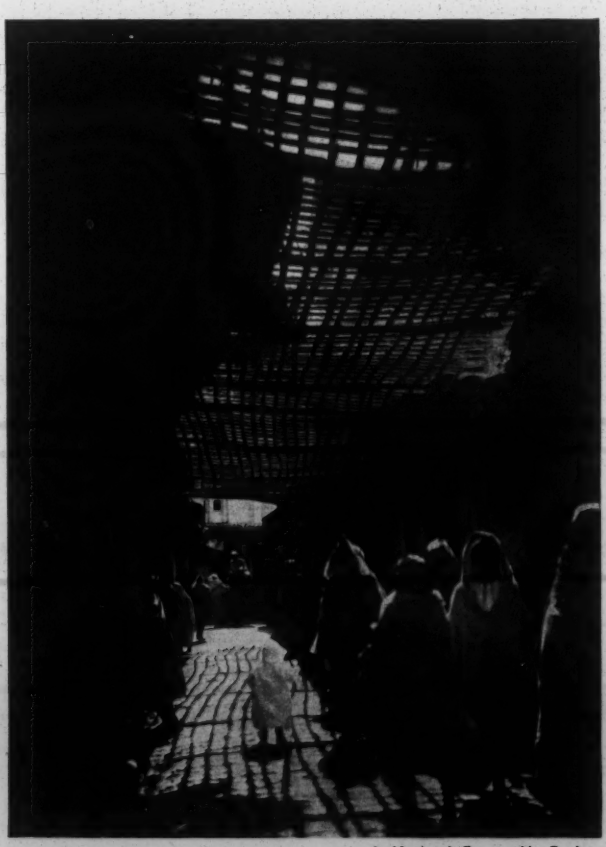
the Druses. The latter attacked the Maronites so vigorously in 1860 that a French army was sent to Syria and a European commission was named to conduct an inquiry into the circumstances. Once more the Druses found refuge in the Hauran desert. The army went home but the commission drew up a form of government by which each district was to be supervised by an appointee of that District's religions. It was this arrangement which precipitated the Maronite insurrection of 1867, under Joseph Karan.

Mt. Hermon is visible from every part of the plain of Hauran. "It is a singular companionship of noble mountain and noble plain," writes one traveler. To the southeast of El-Leja rises Jebel ed-Druz, upon which the evergreen oaks seem especially stately and beautiful after the treeless expanse of Hauran's plain.



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A SHOPPING STREET IN THE HEART OF OLD FEZ

The roof, designed to minimize the severity of the sun's rays is a lattice of reeds. The booths of the merchants are cubby-hole bazaars on each side of the narrow thoroughfare. On some of the streets of Fez horses and mules are allowed, on others only pedestrians. This is one of the former, as shown by the well-to-do individual in the distance, who is mounted (See Bulletin No. 4).